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ABSTRACT

This report describes the evaluation of the Texas Academic Skills Program (TASP) which provides assessment and academic support for students entering Texas public institutions of higher education. The report includes a trend analysis of year-end TASP Test results and a cohort analysis of academic performance for 431,737 students tested for the program for academic years 1989-90 through 1993-94. Trend analysis shows the raw numbers for all students, except Whites, attempting the TASP Test continues to increase. Asian students appear to have more difficulty with language assessments of reading and writing, while other students have more difficulty with the mathematics assessment. All minorities except Asians appear to be increasing in proportion of overall passing rates. Cohort analysis shows that students who completed required remediation are performing in college at levels generally comparable to those students who did not require remediation. Seven appendixes provide the Texas Education Code authorizing the program, TASP Test Skills List, TASP Test results, and cohort data and outcome indicators by ethnicity. (JPB)

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Annual Report on the TASP and the Effectiveness of Remediation

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Texas Academic Skills Program

Texas Higher Education Coordinating Board

August 1995

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Coordinating Board Mission

The mission of the Texas Higher Education Coordinating Board is to provide the Legislature advice and comprehensive planning capability for higher education, to coordinate the effective delivery of higher education, to administer efficiently assigned statewide programs, and to advance higher education for the people of Texas.

Coordinating Board Philosophy

The Texas Higher Education Coordinating Board will promote access to quality higher education across the state with the conviction that access without quality is mediocrity and that quality without access is elitism. The Board will be open, ethical, responsive, and committed to public service. The Board will approach its work with a sense of purpose and responsibility to the people of Texas and is committed to the best use of public monies.

Created by the Texas Legislature in 1965, the Texas Higher Education Coordinating Board works with institutions of higher education, other state agencies, the Legislature and the Governor to ensure that Texans seeking higher education have access to high quality programs. The Board's overall responsibilities include assessing the state of higher education in Texas, making recommendations to the Governor, Legislature and institutions for its enhancement, and establishing policies for the efficient and effective use of the state's higher education resources.

Table of Contents

Executive Summary iii

Introduction 1

- Background 1
- Summary of Texas Education Code, Sect. 51.306 2
- Texas Higher Education Coordinating Board Rules 2
- Funding 3

The TASP Test 3

- Development 3
- Test Components and Scoring 4
- Trend Analysis 5
- Programmatic Changes 10

Cohort Studies 14

- Introduction 14
- Higher Education in Texas, 1992 14
- Design 15
- Evaluation Model 16
- Interim Cohort Findings To Date 17
- Conclusions and Cautions 21

APPENDIX A: Texas Education Code, Sect. 51.306 23

APPENDIX B: TASP Test Skills List 28

APPENDIX C: TASP Test Results 34

APPENDIX D: File Transfer Protocol (FTP) 36

APPENDIX E: Cohort Data: Statewide Summaries 38

APPENDIX F: Cohort Outcome Indicators by Ethnicity 43

APPENDIX G: Glossary of Terms 45

List of Tables

Table 1: Comparison Numbers 17

Table 2: Retention and Award Earned Outcome Measures 19

Table 3: Grade Point Earned and Class Performance Outcomes 20

List of Figures

Figure 1: Tested and Passing TASP Test 6

Figure 2: Overall TASP Pass Rates by Subject 7

Figure 3: Numbers of Students Attempting TASP Test 8

Figure 4: Proportion by Ethnicity Attempting TASP Test 9

Figure 5: Passing TASP Test by Ethnicity 9

Figure 6: Proportion of Students Failing TASP Test 12

Texas Academic Skills Program

Annual Report on the TASP and the Effectiveness of Remediation

Executive Summary

The Texas Academic Skills Program (TASP)

- The Texas Academic Skills Program (TASP) was created by the 70th Texas Legislature in 1987 as an early assessment and academic support program for all students entering Texas public institutions of higher education. The first TASP Test was administered March, 1989.

- Students are required to take the TASP assessment to determine if they have the reading, writing, and mathematics skills, as defined by higher education faculty, to be successful in college.

- Students found to have academic skill deficiencies in these areas must participate continuously in remediation programs until skill mastery is demonstrated by passing the appropriate sections of the TASP Test.

- Students must pass all three sections of the TASP Test before they can take upper-level courses beyond 60 semester credit hours and before they can graduate from a certificate, associate or baccalaureate level program.

- Institutions may require local placement tests with standards that are higher than required by the state-mandated TASP. All remediation efforts, whether based on local tests or the TASP Test, are included in the cohort analysis. Trend analysis is based on TASP Test performance alone.

Effectiveness of Remediation

This report includes both a trend analysis of year-end test results and a cohort analysis of academic performance. Trend analysis is appropriate for making comparisons of student performance among groups over time. The cohort analysis should be used only as a snapshot of the progress of a particular group of students at a given point in

time. Any group comparisons from the cohort data should be made only when cohorts have been in existence for a similar time period (two cohorts--one that has been in existence for four years and the second for three years-- should only be compared with data from their respective second and third years).

Trend Analysis

Trend analysis shows student performance on the TASP Test by ethnicities and academic subjects at Texas public postsecondary institutions for academic years 1989-90 through 1993-94. The raw numbers of all students except White students continue to increase, and the proportion of all students except Whites attempting the TASP Test continues to increase. Minority students are accounting for proportionately more of the entering and tested freshmen students, reflecting the changing demographics of Texas.

Comparison of 1993-94 annual results with the previous years' results is difficult because of several programmatic changes implemented September 1993 - exemptions from the Texas Academic Skills Program through high performance on other test instruments, changes to the test instrument in anticipation of increasing standards, and the rescinding of the "15 hour rule" for attempting the test. These programmatic alterations have caused a dramatic change in the tested population, and less prepared students are now attempting the examination, resulting in dramatically lower pass rates when compared with previous years.

The data still support some general conclusions:

- Asian students have more difficulty with the language assessments of reading and writing, and all other students have more difficulty with the mathematics assessment;
- all minorities except Asians appear to be increasing in proportion of overall passing rates, and
- all minorities pass in proportions that exceed their proportions of students attempting the assessment.

Not included in these analyses are students exempt from the TASP through college credit earned prior to the 1989-90 academic year, students participating in TASP-waived certificate programs, students attending independent or out-of-state institutions, high school students who attempt the TASP Test, and students attending upper division or medical institutions where numbers are so few that student privacy might be violated if TASP score data were released. Finally, excluded from the cohort analyses are students attending only one semester of an academic year.

Cohort Analysis

The success of students requiring remediation is compared to the success of students not requiring remediation as measured on grade point averages above 2.0 (C average), attempting and passing college level coursework with a D or higher, retention rates, and highest award earned (cohorts 1989-95 and 1990-96 only).

Cohort studies, when complete, will allow for a given cohort to be analyzed over a six-year period, the time in which most students can be expected to complete an undergraduate education. Future reports will follow the four cohorts presented here, as well as new cohorts as they come into existence until their sixth year.

Statewide, students who *completed required remediation* are performing in college at levels generally comparable to those students who did not require remediation. Data show that when students *complete* remediation, they:

- obtain a grade point average of 2.0 or higher at rates within 10 percentage points of students not requiring remediation,
- pass the first college-level English course at rates within 10 percentage points of students not requiring remediation, and
- pass the first college-level mathematics classes at rates within 20 percentage points of students not requiring remediation.

After a five year period, students who complete remediation earn certificates and associate degrees at a proportionately higher rate than students who do not require remediation. Students who do not require remediation earn proportionately more baccalaureate degrees, but students who complete remediation remain in school longer and may perform at the same level if given additional time to complete their degrees.

Annual Report on the TASP
and the Effectiveness of Remediation

INTRODUCTION

Background

In 1985, the Texas Higher Education Coordinating Board appointed the Committee on Testing to determine how many Texas students entering college were inadequately prepared for college-level work and to explore the feasibility of creating a basic skills test for entering students. The committee was directed to report its recommendations for addressing the problem to the Select Committee on Higher Education.

The committee reported that the problem of under preparation facing Texas students could no longer be ignored. Texas had to take steps to insure that students entering public institutions of higher education possessed the basic skills required to be effective in college and reap the maximum benefit from their educational experience. After holding several public hearings, visiting other states to study their basic skill testing programs, and considering several possible approaches, the committee issued a report entitled *A Generation of Failure: The Case for Testing and Remediation in Texas Higher Education* (July 1986). The committee estimated that at least 30 percent of the students who enter Texas public higher education each year cannot read, write, or compute at levels needed to perform effectively in higher education. Some of those college students leave higher education because they lack needed skills, not because they lack ability. Others may receive degrees without mastering basic reading, writing, and mathematics skills.

To remedy the problem, the Committee on Testing recommended that Texas adopt a diagnostic test for the reading, writing, and mathematics skills needed to perform effectively in college. The committee also suggested that the test be administered after admission decisions had been made, thereby avoiding a possible move to admit students according to their performance on the skills test. Another recommendation called for all institutions to develop both advising programs for all students and remedial programs to meet the needs of under prepared students.

Accountability for such an extensive and important education initiative was a major concern of the committee. The committee recommended that each institution report annually to the Texas Higher Education Coordinating Board the effectiveness of remedial and advising programs.

In 1986, the recommendations provided by the Committee on Testing were adopted by the Coordinating Board and sent to the Texas Legislature. During the 1987 legislative session, the recommendations became law under Section 51.306 of the Texas Education Code. Appendix A contains this law.

Summary of Texas Education Code, Sect. 51.306

The legislation that created the Texas Academic Skills Program incorporated all of the significant Committee on Testing recommendations. The Education Code requires that all students entering a public institution of higher education in the fall of 1989 and thereafter must take a reading, writing, and mathematics basic skills examination prior to the accumulation of nine or more semester credit hours or the equivalent (TEC § 51.306(b)(2)). The examination cannot be used for admission purposes but must be taken before the student accumulates nine semester credit hours of course work.

If skill deficiencies are identified, the student is required to participate in continuous remediation until he or she masters all sections on the examination. Institutions must offer advising programs for all students and remedial programs for students with demonstrated skill deficiencies.

The law also requires all institutions to report to the Coordinating Board on the effectiveness of remedial and advising programs. Two major reports are produced as a result of the Texas Academic Skills Program: the *Annual Report on the Effectiveness of Remediation* and the *Report on Academic Advising*. This volume contains the fourth *Annual Report on the Effectiveness of Remediation*.

Texas Higher Education Coordinating Board Rules

Students are not required by the state to enter remediation after failing a local placement examination, though institutions may require it. While state statute requires skill-deficient students, as demonstrated on the TASP Test, to participate in remediation, it does not address the nature or extent of remedial interventions. The law simply states that students must be offered remediation and that they must master all content areas on the examination before enrolling in upper-division course work beyond 60 semester credit hours.

The Coordinating Board has adopted rules that address specific issues related to the administration of the TASP, including rules governing when students take the test and what action is needed if performance indicates a need for remedial intervention. Continuous remediation is required by Coordinating Board rules, although no particular program is prescribed. The individual instructional needs of skill-deficient students are determined by the institutions. Developmental educators and academic advisors on each campus, with appropriate educational experience, resources, and knowledge of

the background of each student, determine the best way to meet student needs. Institutions are encouraged to provide a wide variety of remedial options to students, including classroom instruction, tutorials, self-paced classes, computerized instruction, and self-directed study.

Although the testing component of the TASP usually receives most of the public's attention, TASP is much more than a test. Skill assessment is accompanied by academic advising and placement into courses at appropriate levels, or remediation if necessary. While the TASP created the first statewide skill assessment and remediation program in Texas, many public colleges and universities had a long history of diagnostic assessment and academic assistance for under prepared entering students. When implementing the TASP, the Coordinating Board took advantage of this institutional experience in assessment and remediation by adopting rules allowing colleges and universities to continue administering diagnostic examinations already in place to entering students.

The Coordinating Board believes that students benefit most from early and intensive remediation. Board rules require a student to participate in remediation every semester of enrollment until all sections of the examination are mastered. Although students needing help in more than one content area do not have to remediate in all areas at once, they must continuously work on skill development in at least one area each semester they are enrolled. Continuous remediation motivates students to develop their skills early so that they have the greatest opportunity for success in college-level course work; therefore, evaluations of advising and remedial programs are also conducted to determine program effectiveness.

Funding

In addition to formula funding for course-based remediation, more than $22.6 million of remedial program start-up funding was appropriated to institutions during the 1990-1991 biennium. The Legislature appropriated $11.6 million for non-course based remediation during the 1992-1993 biennium, $11.9 million for the 1994-1995 biennium, and $11.7 million for the 1996-1997 biennium.

THE TASP TEST

Development

More than 3,000 Texas higher education faculty and administrators were involved in the development of the TASP Test. They served on key committees and contributed to the validation and standard setting processes.

Three content committees -- one each for reading, writing, and mathematics -- determined which skills and sub-skills should be tested, reviewed test materials for bias, and reviewed test items for accuracy, appropriateness, and skill match. A separate committee studied all test materials to insure that they were free from bias. Finally, regional panels provided an additional review of the materials.

Through surveys, several thousand Texas faculty were asked if the skills to be tested represented preparation necessary for success in an undergraduate degree or certificate program. Results of the validation survey indicated the chosen skills were necessary.

Following the development and validation of the skills and test items, the items were field-tested on freshmen students attending public colleges and universities. The content and bias review committees reviewed and approved changes to items found to be unsatisfactory.

Test Components and Scoring

Each section of the TASP Test is designed to measure a student's skills in relation to a standard of competence established by the Texas Higher Education Coordinating Board. For a complete list of the 28 tested skills, refer to Appendix B.

The reading section includes 300- to 700-word reading selections similar to those found in course materials (e.g., textbooks, lab manuals, articles) students are likely to encounter during their first year in college. Students respond to approximately 40 multiple-choice questions from 10 to 12 reading selections.

The mathematics section consists of approximately 50 multiple-choice questions covering fundamental mathematics, algebra, and geometry. Test questions focus on a student's ability to perform mathematical operations and solve problems. Appropriate formulas are provided to students for use in performing some calculations. Students may not use calculators during the test.

The writing section consists of two parts - approximately 40 multiple-choice questions and a writing sample. Passing the writing section is based primarily on the essay; the multiple-choice is used only if the student receives a failing grade on the essay from one or both of two scorers. The multiple-choice section assesses students' ability to recognize various elements of effective writing. Writing assignment topics are similar to typical in-class essay assignments. Students are not allowed to use dictionaries during the test.

The TASP Test is administered six times per year at more than 100 testing centers across the state. Standardized test administration procedures ensure security,

uniformity, and fairness. At the beginning of a test session, each student receives a test booklet that contains all three sections of the examination. The sections are not timed and students may work on the sections in any order they choose. A total of five hours is given for a test session, during which time a student may work on one, two, or all three sections. If a student is retaking the examination, only those sections failed must be repeated. The total testing time is provided for all students regardless of the number of sections they choose to attempt. In keeping with the Americans With Disabilities Act of 1990 and the Rehabilitation Act of 1973, students with disabilities may be entitled to special accommodations for the TASP Test. Accommodations can involve changes to the test environment or to the test materials. Students must provide documentation of their disability in order to get appropriate accommodations.

Multiple-choice test questions are machine scored. Writing samples are holistically scored by trained scorers from across the state. The writing scorers look for effective communication of a complete message to a specified audience for a stated purpose. Appropriateness, unity and focus, development, organization, sentence structure, usage, and mechanical conventions are the characteristics considered in scoring writing samples. Failing essays are also analytically scored.

Each test form is constructed in a way that allows computation of a total score for each section as well as diagnostic information about performance on individual skills or groups of skills. Each student receives an individual score report that provides information about total score for each section (pass/fail) and an indication of strengths or weakness for each skill area. Students may choose up to three institutions to receive a copy of the score information.

Trend Analysis

Annual student test performance data allows for a trend analysis of that data. The data are from the institutional CBM 002 TASP reports to the Coordinating Board and from National Evaluation Systems (NES), Inc. data tapes. NES presently is the contractor responsible for the publication, administration, scoring and score reporting of the TASP Test. All trend data figures refer to students at Texas public postsecondary institutions during the academic years 1989-1990 through 1993-1994. The figures reflect all attempts – initial or repeat – to complete the test section or battery.

Figure 1 shows by academic year the raw number of students who were administered the TASP Test and the numbers of students successfully completing all three sections (passing the TASP Test) during that academic year. The percent of students passing the TASP Test is computed by dividing the "Passing" figure by the "Tested" figure. The proportion of students passing the TASP Test has generally averaged about 65 percent each year until 1993-94, when programmatic changes were implemented that altered the tested population, resulting in a lower overall passing rate (see Programmatic Changes, p. 10). For data trend analysis, 1993-94 results will be shown on all data charts but will not be compared with previous years in the discussion.

Figure 1: Tested and Passing TASP Test

Public Postsecondary Institutions

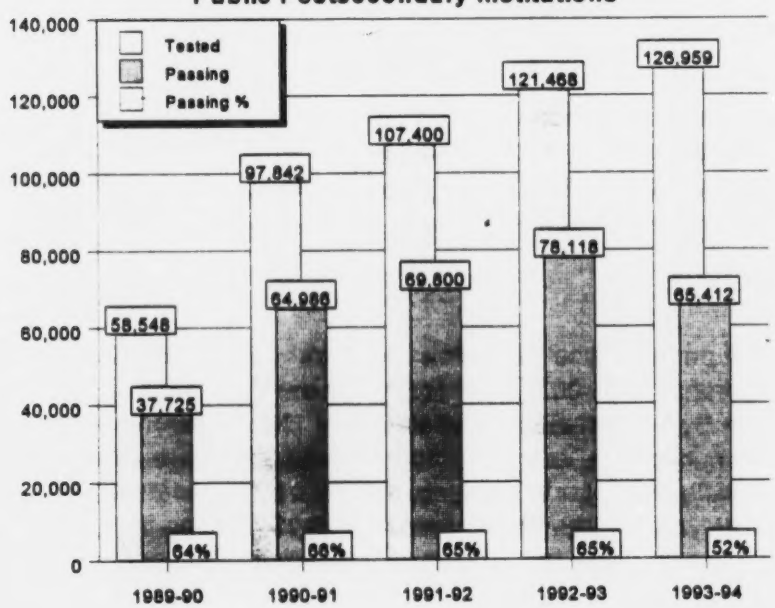
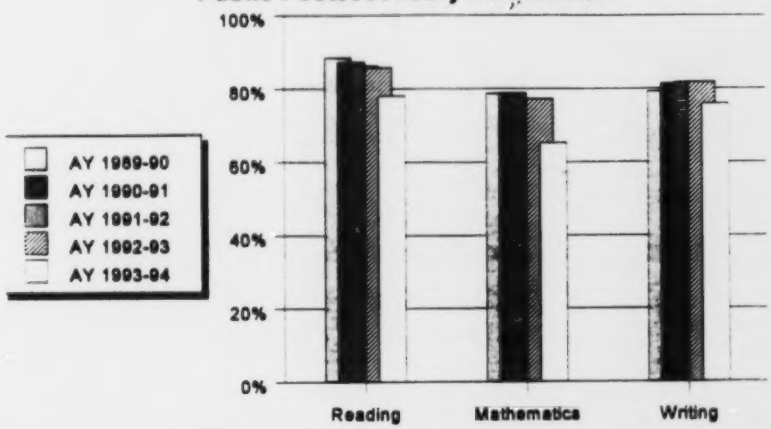


Figure 2: Overall TASP Pass Rates by Subject

Public Postsecondary Institutions



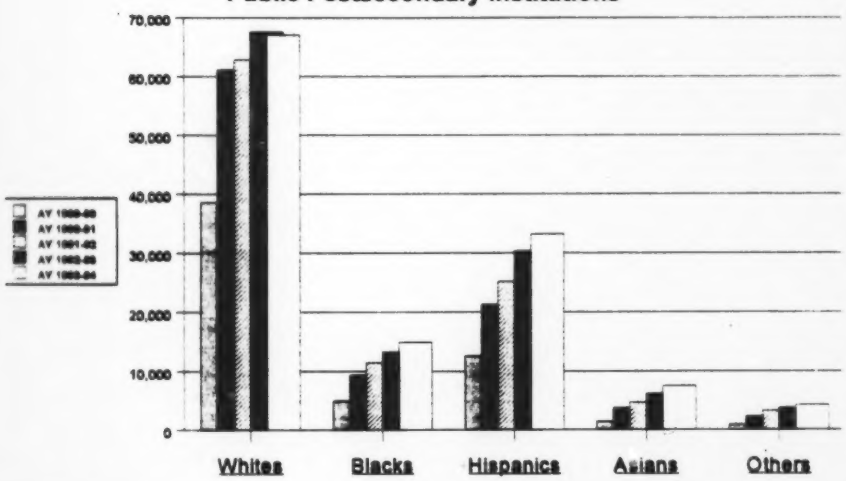
AY 1989-90	88.5%	78.7%	79.3%
AY 1990-91	87.3%	78.8%	81.4%
AY 1991-92	86.2%	76.8%	81.7%
AY 1992-93	85.8%	77.3%	81.8%
AY 1993-94	78.0%	65.3%	75.9%

Figure 2 illustrates the proportion of all students passing the individual subject matter tests of reading, mathematics, and writing. The trend for reading is down from a high of 88.5 percent in academic year 1989-1990 to 85.8 percent in 1992-1993. The trend in mathematics is also generally down, though an increase of one-half of one percent is evident from the 1991-1992 level. The trend in writing seems to be fairly steady, showing incremental increases over the past two years. While the trend data seem to be down or "flat," more than 75 percent of the students passed the mathematics test, approximately 80 percent passed the writing test, and more than 85 percent passed the reading test in any given year except 1993-94 (see Programmatic Changes, p. 10).

Figures 3, 4, and 5 show total test data by ethnicity. Increases in the raw numbers and in the proportion of Blacks, Hispanics, and Asians attempting the TASP Test are evident. Proportions passing increased steadily for Blacks and Hispanics until the implementation of the programmatic changes in 1993-94. The passing trend for Asians decreases. While the raw numbers of White students increased, the Whites have accounted for a steadily decreasing *proportion* of the students tested.

Figure 3: Numbers of Students Attempting TASP Test

Public Postsecondary Institutions



AY 1989-90	38,616	5,022	12,596	1,419	895
AY 1990-91	61,125	9,396	21,263	3,775	2,283
AY 1991-92	62,869	11,412	25,203	4,672	3,244
AY 1992-93	67,574	13,245	30,308	6,166	3,749
AY 1993-94	67,058	14,915	33,191	7,542	4,253

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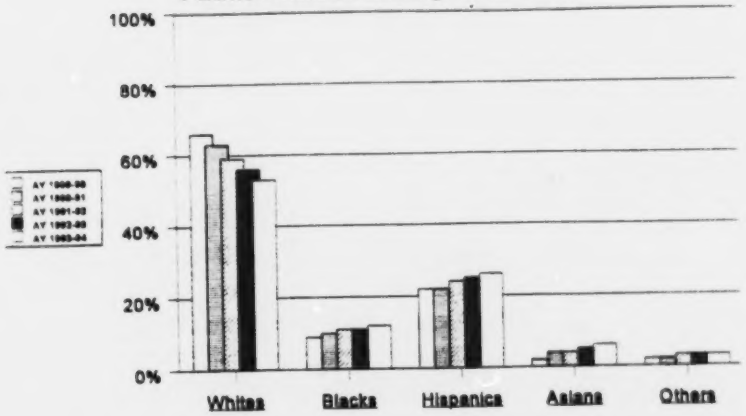
Figure 4: Proportion by Ethnicity Attempting TASP Test

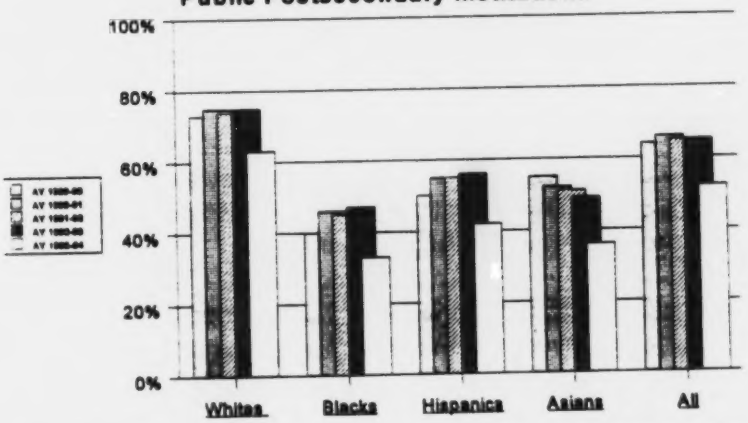
Public Postsecondary Institutions



AY 1989-90	66%	9%	22%	2%	2%
AY 1990-91	63%	10%	22%	4%	2%
AY 1991-92	59%	11%	24%	4%	3%
AY 1992-93	58%	11%	25%	5%	3%
AY 1993-94	53%	12%	28%	6%	3%

Figure 5: Passing TASP Test by Ethnicity

Public Postsecondary Institutions



AY 1989-90	73%	40%	50%	55%	64%
AY 1990-91	75%	46%	55%	52%	66%
AY 1991-92	74%	45%	55%	51%	65%
AY 1992-93	75%	47%	58%	49%	65%
AY 1993-94	63%	33%	42%	38%	52%

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Although the overall passing rate of all students remained roughly the same until 1993-94, and although passing rates for all students by subject declined slightly or remained "flat," there were steady increases in the passing rates of the Black and Hispanic minorities. If these trends continue, the passing rates for minorities except Asians should continue to approach the passing rate for Whites (pass rates by subject matter and ethnicity are given in Appendix C; overall pass rates are given in Figure 5).

Programmatic Changes

A number of programmatic changes implemented in the 1993 fall semester affected the Texas Academic Skills Program. These changes included exempting students from the TASP based on high performance on the Scholastic Assessment Test (SAT), American College Test (ACT), or the Texas Assessment of Academic Skills (TAAS). Another change was the rescission of the rule by which students could wait until their 15th college hour to take the TASP Test. Now, all students must attempt the test by their ninth college hour. Finally, changes to the assessment instrument made for a longer and slightly more difficult test.

These programmatic changes affected the TASP Test passing rate for academic year 1993-1994. A study was completed to insure that these changes affected no demographic group's pass rate disproportionately. The results of that study follow.

Testing Instrument Changes

Effective with the fall semester 1993, changes were made to the reading and the mathematics portions of the TASP Test, and a new type of prompt on the essay portion of the writing test was introduced to reflect a more realistic college writing assignment. All of these changes were field tested before implementation to assure that no demographic group would be disproportionately affected. However, analysis of test items common to all forms of the TASP Test back to its September 1991 administration show a decline in performance by the 1993-94 students.

The decline in performance reflects a change in the tested population. Test form equating assures that students, given no change in the tested population, have the same chance of passing from one test form to another, i.e., no one test form is more difficult than another test form. Thus, if the tests are shown to be equivalent in difficulty, but test passing rates decline significantly from one year to the next, then it is known that the population tested changed. Two factors were identified that account, at least in part, for the change in population - the exemption of certain students and the rescission of the 15 hour rule.

Exemptions

Texas Education Code, Sect. 51.306(m) exempts students from the Texas Academic Skills Program based on exceptionally high performance on either the Texas Assessment of Academic Skills (TAAS), the Scholastic Assessment Test (SAT), or the American College Test (ACT). Texas public institutions of higher education determine which students meet the performance levels set by the Coordinating Board.

The number of students sitting for their initial attempt on the TASP Test during academic year 1993-94 was 94,297. There were 5,511 exemptions awarded based on high performance on the TAAS, SAT, or ACT. This gave an exemption rate of 5.5 percent. When the exempted students were factored into the pass rate, the pass rate increased by two percentage points.

The SAT accounted for 69.8 percent of all exemptions awarded; the ACT accounted for 8.5 percent, and the TAAS accounted for 21.7 percent of all exemptions awarded. A total of 72.1 percent of the exemptions were awarded by four-year institutions, while 27.9 percent of the exemptions were awarded by two-year institutions. By student ethnicity, Whites accounted for 77.8 percent of all exemptions, Asians accounted for 9.6 percent, and Hispanics accounted for 8.3 percent of all exemptions awarded. Blacks and Others accounted for 2.3 and 1.9 percent of the exemptions awarded, respectively.

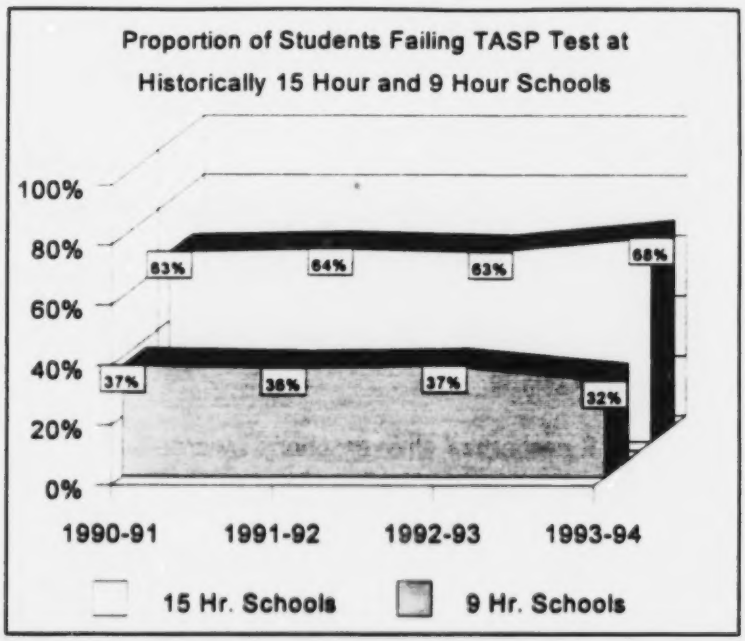
The exemptions depress the TASP Test pass rate because the top tier (5.5 percent) of students, all of whom presumably would have passed the TASP Test, is not tested. However, an increase in the pass rate of only a couple of percentage points is not sufficient to account by itself for the total decline in the pass rate observed.

Rescinding of "15-Hour Rule"

Texas Education Code, Sect. 51.306 requires students to attempt the TASP Test in the semester in which they complete their ninth semester credit hour (SCH). Prior to fall semester, 1993, Coordinating Board rules allowed an institution to permit its students to wait until they had completed 15 SCH to attempt the TASP Test, if the incoming students were administered a local placement examination upon entry and placed into appropriate remediation as needed.

To comply with the statute, the "15-Hour Rule" was rescinded effective in the fall semester 1993. As a result, it appears that a less-prepared student population is being tested, lowering the passing rate statewide. More than half (58.6 percent) of all institutions had elected the 15-hour rule, accounting for 61 percent of the two-year institutions, 52 percent of the four-year institutions, and 64.1 percent of the tested student population.

Figure 6



As Figure 6 shows, this change had a profound effect on student test performance. Examination of only those students who failed the TASP Test shows that a clear increase in the proportion of those students occurred in the 1993-94 academic year at institutions that historically had been under the 15-hour option.

Requiring the 9-hour rule for all institutions now captures TASP-tested students who otherwise would have had an additional semester preparation, particularly at the two-year community and technical colleges, where many students enter for limited retraining only. Many of these students now test under the statute at nine hours, perhaps failing a section or more, and never attempt a retest because they have achieved their limited goal and have left higher education.

While rescinding the "15-hour rule" caused a general change in the tested population, it does not affect any one group disproportionately. The spread of pass rate decreases across all ethnicities is 2.4 percentage points (from a 12.2 percentage points decrease for White students to a 14.6 percentage points decrease for Black students).

An examination of the changes between 1992 and 1993 in the proportion of students failing the test disclosed that no one group was affected more significantly than another. By ethnicity, the proportion of failing students increased for Whites (0.8 percent) and Asians (0.3 percent) and decreased for all other ethnicities by less than 1.1 percent combined. Similarly, when the failing proportions were examined by age grouping,

differences were minor - the largest change was in the age group of 20-29 (+ 4.1 percent). Finally, the data were examined by ethnicity and gender at both historically "9-hour schools" and historically "15-hour schools". Any increase or decrease in the proportion of failures from 1992 to 1993 was 1.5 percent or less.

In conclusion, no demographic group has been affected disproportionately by the programmatic changes, though the population tested as a whole is less prepared at the time of testing as a result of the rescission of the "15-hour rule." For more detailed information, contact the TASP Office at (512) 483-6330.

Until the fall semester, 1993 the TASP Test had a common passing standard based on common test content and a common tested population, and trend comparisons were valid. *One of these elements, the tested population in 1993-94, has changed. Because of this change, comparisons of academic year 1993-94 and previous years should be approached with caution.*

COHORT STUDIES

Introduction

A "cohort" is defined as a "group of individuals having a statistical factor in common in a demographic study" (*Webster's Ninth New Collegiate Dictionary*). The cohorts studied here are *first-time entering freshmen who remain in school for at least two semesters, not necessarily contiguously, through the following fall semester.* The cohort data presented below do not represent trends; rather, the data mark the progress of the cohort to date.

Higher Education in Texas, 1992

The present study concerns the 29 public universities and 69 public community and technical colleges submitting TASP reports to the Coordinating Board from 1989 to 1992, the entry date of the latest cohort included in the study. Texas ranked third nationally in the number of private and public institutions of higher education in 1991 and fourth in 1993 ("Facts on Higher Education in Texas", 1991, 1993). Public universities accounted for approximately 50 percent of the student enrollment in public higher education in Texas, and community and technical colleges accounted for approximately 50 percent.

Freshmen Enrollment

In 1992, freshmen accounted for 43 percent of the student body, with 25 percent attending four-year institutions, and 75 percent attending two-year institutions. First-time, full-time entering freshmen were 9 percent of the total student population. Approximately 50 percent of these freshmen attended four-year institutions, and approximately 50 percent attended two-year institutions.

Retention

Four-year institutions retained almost 69 percent of their freshmen. Community and technical colleges retained slightly fewer than 51 percent of their freshmen.

Graduation

Twenty-four percent of students transferred from two-year institutions to four-year institutions to complete their college education. Twenty-three percent of the two-year students earned an associate degree or certificate and did not transfer to a senior institution. At public universities, 47.6 percent of first-time, full-time (enrolled in 12 or

more semester credit hours) students graduated within six years (THECB 1993 *Statistical Report*).

The reader should remember these general figures when looking at the cohort data below. For example, the 1992-93 community college graduation figures cited above are six-year figures for first-time, full-time freshmen who entered fall 1987, accounting for only slightly more than 12 percent of the community and technical colleges' student population. More than 85 percent enrolled part-time and may be still be attending school part-time or may have completed a personal training or re-training goal short of earning a degree or certificate and left Texas public higher education. Presently there is no way to distinguish between students in the cohort data who attend part-time and those who have left higher education. This may cause a misleading and inaccurate remediation completion rate. At present, there is no way to exclude students who have left higher education from the cohort database.

Design

Three principles were established for assessing the effectiveness of remediation. These principles guided the development of the evaluation criteria and the data collection system.

The first principle requires student academic progress to be monitored over time. Students must be given a sufficient amount of time for learning to take place. Indicators of academic progress must be collected at several points during the students' academic careers for accurate measurement of progress.

Second, multiple indicators of student progress and performance are needed. Because the law requires that all skill-deficient students participate in remediation, controlled experimental studies designed to isolate the effects of remedial programs cannot be conducted. Multiple indicators of effectiveness help compensate for the lack of experimental control. Any single indicator, such as grade point average, is subject to influences beyond the effects of remediation. Patterns found in multiple indicators, however, can lead to informed judgments regarding program effectiveness.

Finally, the performance of skill-deficient students must be compared to the performance of students who do not require remedial interventions. An effective remedial program should enable students to earn similar grades -- within 20 percentage points of each other for the two groups, as determined by the TASP Evaluation Committee -- and to progress toward graduation comparably to students who did not require remedial programs.

The following indicators, used in combination, form the basis of comparison between students requiring remediation and those who do not:

- Retention in higher education.
- Grade Point Average of 2.0 or greater.
- Grade in first college-level English course.
- Grade in first college-level mathematics course.
- Highest certificate/degree earned (available for the cohorts 1989-1995 and 1990-1996 only).

Since the implementation of the TASP in 1989, each of these performance measures has been collected annually for all students enrolled in a Texas public college or university. Students can be individually identified, allowing a continuous record of enrollment and performance throughout their academic careers, even as they transfer from one institution to another or leave public higher education and then return. Data for those students who transfer to out-of-state or independent institutions, however, are not available.

Evaluation Model

For this evaluation, students were categorized as: "Remediation Not Required," "TASP Required Remediation," "Locally Required Remediation," and "Untested." Generally, all entering students must take the TASP Test prior to the end of the semester in which they accumulate nine or more college-level semester credit hours. However, to assist with placement decisions, institutions may elect to give a local diagnostic placement test to students upon entry. "Untested" students are students in TASP-waived certificate programs. In each category, the students were organized by subject area and ethnicity.

This *Annual Report on the Effectiveness of Remediation* reports on four cohorts, beginning with academic year 1989-90. *The cohort for any academic year is defined as all students entering Texas public postsecondary education for the first time during the academic year and attending for at least one additional semester through the next fall semester.* Results are reported for the fifth year of study for those students in the 1989-95 cohort, the fourth year of study for the 1990-96 cohort, the third year of study for 1991-97 cohort, and the second year for the 1992-98 cohort. Cohorts are reported for the first time after two years of existence. Each cohort will be followed for six years.

The first *Annual Report on the Effectiveness of Remediation* (August, 1992) examined students who were TASP-tested only. Under guidance from the advisory TASP Evaluation Committee, subsequent reports analyze data for all students placed in remediation, through either TASP placement testing or through local placement testing. Cohort results are reported by subject area, ethnicity, and institution, with statewide two-year institution and four-year institution summaries. These results are available on the Internet via file transfer protocol (Appendix D). Statewide cohort data are reproduced in Appendix E.

No cohort data are considered complete because none of the cohorts reported here have completed the typical six-year college experience and study period. Therefore, no specific conclusions will be drawn on the effectiveness of remedial efforts for these students until the initial cohort (cohort 1989-95) completes the study period. Reports on subsequent cohorts will be provided as they complete the study. Trends across the cohorts may be analyzed at that time.

Finally, in 1993 the cohort definition was modified to include students who begin in the spring or summer sessions and who return the following fall. Revised second *Annual Report* data are available upon request from the Texas Higher Education Coordinating Board TASP Office (512-483-6330).

Interim Cohort Findings To Date

The cohorts studied here are a sampling from the total freshman class. Numbers of tested/not tested students and enter/complete remediation are from the cohorts, as presented in Table 1:

Table 1: Comparison Numbers

	Cohort 1989-95	Cohort 1990-96	Cohort 1991-97	Cohort 1992-98
Number of Freshmen	344,815	346,584	349,668	351,710
Total Cohort	122,925	146,821	148,608	142,296
Not Tested Population	40,000	34,092	29,102	25,719
Tested Population	82,925	112,729	119,506	116,577
Enter Remedia-tion	44,809 (54,0%)	57,680 (51.2%)	59,596 (49.8%)	57,588 (49.4%)
Complete Remedia-tion	23,804 (53.1%)	32,517 (56.4%)	33,446 (56.1%)	31,081 (54.0%)

Statistics comparing students who complete remediation with the total cohort population show the proportion for each 1) still in school and 2) by highest award earned (Table 2). Classroom performance and grade point average earned is then shown by tested subject matter for students who required remediation compared to students who did not require remediation (Table 3). *(NB: Overall student grade point average is computed by the subject area of interest. Any student may be included in both the mathematics and the composition subject areas if the student failed both sections of either the local or TASP placement test.)*

TABLE 2: Retention and Award Earned Outcome Measures

Remaining In School After	*Two Years*	*Three Years*	*Four Years*	*Five Years*
Cohort 1989-95 Total Cohort	91% *	55.2%	45.6%	34.9%
Remediation Completed	89% *	70.6%	59.0%	47.9%
Cohort 1990-96 Total Cohort	73.0%	55.9%	46.1%	
Remediation Completed	84.7%	70.1%	57.7%	
Cohort 1991-97 Total Cohort	71.2%	55.7%		
Remediation Completed	83.8%	67.8%		
Cohort 1992-98 Total Cohort	70.0%			
Remediation Completed	81.5%			
Highest Award Earned				
Cohort 1989-95				
Remediation Not Required				
Certificate		0.9%	1.3%	
Associates		5.7%	6.9%	
Bachelors		7.9%	23.2%	
Remediation Completed				
Certificate		1.9%	2.2%	
Associates		7.3%	9.6%	
Bachelors		1.0%	5.0%	
Cohort 1990-96				
Remediation Not Required				
Certificate		1.3%		
Associates		4.2%		
Bachelors		4.1%		
Remediation Completed				
Certificate		2.0%		
Associates		7.8%		
Bachelors		1.3%		

* Cohort 1989-95 two year retention data computed for TASP-tested students only.

TABLE 3: Grade Point Earned and Class Performance Outcomes

Grade Point Earned "C" or Better	*Two Years*		*Three Years*		*Four Years*		*Five Years*	
	Writing	*Mathematics*	*Writing*	*Mathematics*	*Writing*	*Mathematics*	*Writing*	*Mathematics*
Cohort 1989-95								
Remediation Not Required	77% Overall		77.7% Overall		78.2%	77.6%	78.5%	78.2%
Remediation Completed	74% Overall		68.3% Overall		70.6%	71.8%	70.7%	72.1%
Cohort 1990-96								
Remediation Not Required	76.8% Overall		77.5%	77.4%	78.0%	77.9%		
Remediation Completed	66.3% Overall		70.0%	71.5%	70.3%	71.7%		
Cohort 1991-97								
Remediation Not Required	78.1%	78.0%	77.8%	78.1%				
Remediation Completed	71.7%	71.8%	70.6%	71.1%				
Cohort 1992-98								
Remediation Not Required	78.3%	78.9%						
Remediation Completed	70.4%	71.4%						
Passing Classroom Performance	*Writing*	*Mathematics*	*Writing*	*Mathematics*	*Writing*	*Mathematics*	*Writing*	*Mathematics*
Cohort 1989-95								
Remediation Not Required	85%	73%	85.4%	71.8%	84.8%	71.2%	84.4%	70.1%
Remediation Completed	82%	64%	67.7%	52.3%	75.1%	54.2%	74.5%	53.5%
Cohort 1990-96								
Remediation Not Required	85.4%	72.5%	84.7%	71.5%	84.4%	70.7%		
Remediation Completed	70.3%	54.0%	77.7%	54.9%	76.5%	54.2%		
Cohort 1991-97								
Remediation Not Required	85.9%	72.7%	85.3%	71.4%				
Remediation Completed	77.2%	54.1%	75.7%	53.2%				
Cohort 1992-98								
Remediation Not Required	85.2%	72.2%						
Remediation Completed	76.5%	57.2%						

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Conclusions and Cautions

None of the cohort studies reported here is complete. All data are interim, and all conclusions based on these data should be approached with caution.

Statewide, students who completed required remediation are generally performing in college at levels comparable to those students who did not require remediation. Data presented in Tables 2 and 3 reveal that *students who complete remediation generally:*

- obtain a grade point average of 2.0 or higher at rates within 10 percentage points of students not requiring remediation;
- pass the first college-level English course at rates within 10 percentage points of students not requiring remediation; and
- pass the first college-level mathematics course at rates within 20 percentage points of students not requiring remediation.

Table 2 shows that students who complete remediation stay in school at a higher rate and earn certificates and associate degrees at a higher rate than students not requiring remediation. Next year's report will provide information to determine a full six-year completion rate for the 1989-95 cohort.

The data as presented here support only limited trend analysis because of differences in time references. Such trend analyses are possible only when enough data has been collected to compare the different cohorts over the same amount of time (for instance, looking at Cohort 1989-95 after three years' time and Cohort 1990-96 after three years' time and Cohort 1991-97 after three years' time). More accurate comparisons will be possible after each cohort completes the six-year study period.

Finally, the percentage of students completing remediation may be considered low by some readers (see Table 1). Remediation completion rates may be low for a number of reasons. Why students do not complete remediation, which is part of the larger question of why students leave higher education, is a continual concern for educators. Students most often cite such personal reasons as finances as the reason for leaving higher education rather than poor academic performance (*How College Affects Students*, Ernest Pascarella and Patrick Terenzini, Jossey-Bass, 1991 and *What Matters in College: Four Critical Years Revisited*, Alexander Aspin, Jossey-Bass, 1993). Remediation completion rates by ethnicity are reported in Appendix F.

The cohort data reported here include part-time students. These students, particularly at community colleges, may remain in school only long enough to achieve a personal goal of retraining or personal enrichment and, in the process, become TASP liable.

Having achieved their personal goal, the students leave higher education without completing remediation. The Texas Higher Education Coordinating Board staff continues to try to find ways to identify why students do not complete remediation, but presently is unable to answer this question satisfactorily.

As a cohort study, the fourth *Annual Report on the Effectiveness of Remediation* does not analyze TASP Test results from all TASP-tested students nor all locally tested students (see the definition of cohort). Each cohort should be seen as a subset of all students entering Texas higher education, and the data presented as a "snapshot" of that subset at a given point in time. The study of each cohort presented here is still under way and will not be complete until a cohort exists for six years. *No specific conclusions concerning the effectiveness of remediation programs in Texas public postsecondary institutions should be made yet based upon these interim reports.* The first completed cohort will be reported on in full in 1996.

The Texas Academic Skills Program is not just an examination, but a larger academic support program that includes local remedial efforts. Students attend the same remediation classes regardless of whether or not placement is based on the TASP placement test or a local placement test. Data from the cohort analyses therefore represent all remediation efforts and not only TASP-required remediation.

APPENDIX A

Texas Education Code, Sect. 51.306

§ 51.306 Testing and Remedial Coursework

(a) In this section:

(1) "Board" and "institution of higher education" have the meanings assigned by Section 61.003 of this code.

(2) "Deaf student" means a student who is a deaf person as defined by Section 54.205(a) of this code.

(3) "Blind student" means a student who is a blind person as defined by Section 54.205(a) of this code.

(b) All students in the following categories who enter public institutions of higher education in the fall of 1989 and thereafter must be tested for reading, writing, and mathematics skills:

(1) all full-time and part-time freshmen enrolled in a certificate or degree program;

(2) any other student, prior to the accumulation of nine or more semester credit hours or the equivalent; and

(3) any transfer student with fewer than 60 semester credit hours or the equivalent who has not previously taken the tests.

For that purpose, the institution shall use a test instrument prescribed by the board. The same instrument shall be used at all public institutions of higher education.

(c) The test instrument adopted by the board must be of a diagnostic nature and be designed to provide a comparison of the skill level of the individual student with the skill level necessary for a student to perform effectively in an undergraduate degree program. In developing the test, the board shall consider the recommendations of faculty from various institutions of higher education.

(d) An institution may not use performance on the test as a condition of admission into the institution.

(e) The board shall prescribe minimum performance standards for the test instrument. A student whose performance is below the standard for tested skill must participate in a remediation program. An institution may require higher performance standards.

(f) If the test results indicate that remedial education is necessary in any area tested, the institution shall refer the student to remedial courses or other remedial programs made available by the institution. Each institution shall make available those courses and programs on the same campus at which the student would otherwise attend classes. The courses or programs may not be considered as credit toward completion of degree requirements.

(g) A student may not enroll in any upper division course completion of which would give the student 60 or more semester credit hours or the equivalent until the student's test results meet or exceed the minimum standards in all test scores. The board shall establish other assessment procedures to be used by institutions in exceptional cases to allow a student to enroll in upper division courses in cases where student test results do not meet minimum standards.

(h) The state shall continue to fund approved nondegree credit remedial courses. Additionally, the board shall develop formulas to augment institutional funding of other remedial academic programs. The additional funding required under such formulas shall be met by state appropriation for fiscal years 1990-1991 and thereafter.

(i) Each institution shall establish an advising program to advise students at every level of courses and degree options that are appropriate for the individual student.

(j) The unit costs of each test shall be borne by the student. Costs of administering the tests to students shown to be financially needy under criteria established by the board shall be borne by the state through appropriation to the board for that purpose or other sources of

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funds. Additionally, appropriation shall be made to the board to cover overall administrative costs of the testing program.

(k) Each institution shall report annually to the board, on or before a day set by rule of the board, concerning the results of the students being tested and the effectiveness of the institution's remedial program and advising program. The report shall identify by name the high school from which each tested student graduated and a statement as to whether or not the student's performance was above or below the standard. For the purposes of this report, students shall not be identified by name.

Text of subsec. (l) effective until Sept. 1, 1995

(l) An institution may not require a deaf or blind student to take the test required by this section as a condition for enrollment in an upper division course or require a deaf or blind student to participate in a remediation program as a result of the test. This subsection expires September 1, 1995.

(m)(1) A high school student who performs at or above a level on the Texas Assessment of Academic Skills test to be set by the board is exempt from this section. This exemption will be in effect for three years from the date the Texas Assessment of Academic Skills test is taken and the set score level is achieved. Students enrolling for the first time in Texas public colleges and universities after the three-year period has elapsed must conform to all provisions of this section.

(2) Entering or transferring students who have achieved a score to be set by the board on the Scholastic Assessment Test or the American College Test are exempt from the requirements of this section. This exemption will be in effect for five years from the date either the Scholastic Assessment Test or the American College Test is taken and the set standard is achieved. Students enrolling for the first time in Texas public colleges and universities after the five-year period has elapsed must conform to all provisions of this section.

Text of subsec. (n) as added by Acts 1993, 73rd Leg., ch. 273, § 1

(n) The board shall adopt rules necessary for the administration of this subchapter.

Text of subsec. (n) effective Sept. 1, 1995 as added by Acts 1993, 73rd Leg., ch. 431, § 2

(n) This section applies to a blind student only if the test is administered to that student in large print or Braille or is administered by audio cassette or by a reader, as appropriate to that student.

Text of subsec. (o) as redesignated from subsec. (m) by Acts 1993, 73rd Leg., ch. 273, § 1

(o) This section does not apply to a student located outside this state who enrolls in a course offered outside this state by an institution of higher education.

Text of subsec. (o) effective Sept. 1, 1995 as added by Acts 1993, 73rd Leg., ch. 431, § 2

(o) This section does not apply to a deaf student.

(p) An institution of higher education shall provide to each student under Subsection (b) of this section who is accepted by the institution for admission information in the institution's catalog relating to the testing and remedial requirements of this section and of the rules adopted by the Texas Higher Education Coordinating Board.

Added by Acts 1987, 70th Leg., ch. 807, § 1, eff. Aug. 31, 1987. Amended by Acts 1989, 71st Leg., ch. 234, § 1, eff. June 2, 1989; Acts 1991, 72nd Leg., ch. 283, § 1, eff. Aug. 26, 1991; Acts 1993, 73rd Leg., ch. 273, § 1, eff. May 24, 1993; Acts 1993, 73rd Leg., ch. 431, § 1, eff. June 6, 1993; Acts 1993, 73rd Leg., ch. 431, § 2, eff. Sept. 1, 1995.

Historical and Statutory Notes

1987 Legislation

Section 2 of the 1987 Act provides:

"The test required by this Act shall be administered to students beginning with those students entering institutions of higher education for the first time no later than the fall semester 1989."

1989 Legislation

Section 2 of the 1989 amendatory act provides:

"(a) Section 51.306(l), Education Code, as added by this Act, expires September 1, 1991.

"(b) Before September 1, 1991, the Texas Higher Education Coordinating Board shall prepare and adopt versions of the Texas Academic Skills Program (TASP) examination similar to the TASP examination, which have been determined by qualified professionals to be fully accessible to and unbiased toward deaf or blind students, to be used on and after September 1, 1991, to meet the requirements of Section 51.306, Education Code.

"(c) Before September 1, 1991, the Texas Higher Education Coordinating Board shall prepare and adopt a program of remedial courses that have been determined by qualified professionals to be fully accessible to and unbiased toward deaf or blind students, to be used on and after September 1, 1991, to meet the requirements of Section 51.306, Education Code."

1991 Legislation

Former subsec.(l), making the section inapplicable to deaf or blind students, added by Acts 1989, 71st Leg., ch. 234, § 1, eff. June 2, 1989, expired Sept. 1, 1991, pursuant to § 2(a) of that act.

1993 Legislation

Section 3 of Acts 1993, 73rd Leg., ch. 273 provides:

"Subsection (m), Section 51.306, and Subsection (k), Section 13.032, Education Code, as added by this Act, apply for admission to a public institution of higher education, as defined by Section 61.003, Education, on or after the beginning of the fall semester, 1993.

§ 51.3061. Testing and Remedial Coursework for Deaf Students

(a) In this section:

(1) "Agency" means the Central Education Agency.

(2) "Coordinating board" means the Texas Higher Education Coordinating Board.

(3) "Deaf student" means a student who is a deaf person, as defined by Section 54.205(a) of this code.

(4) "Institution of higher education" has the meaning assigned by Section 61.003 of this code.

(b) A deaf student who enrolls at an institution of higher education must take the Stanford Achievement Test, nationally normed on the hearing-impaired population by Gallaudet University, if the student:

(1) is a full-time or part-time freshman enrolled in a certificate or degree program that contains nine or more semester credit hours of general education courses or the equivalent of those courses; or

(2) is a transfer student from an institution that is not an institution of higher education, has less than 60 semester credit hours, and has not previously taken the test required by this section.

(c) The agency shall administer the test.

(d) A deaf testing committee is established to advise the coordinating board and the State Board of Education on required performance standards on the test and required remedial coursework for students who fail the test.

(e) The deaf testing committee consists of the following 10 members:

(1) a person appointed by the agency's testing and evaluation division;

(2) a person appointed by the agency's office on deaf education;

(3) an administrator of the deaf student services program of the Texas State Technical College System;

(4) a vice-president of the Southwest Collegiate Institute for the Deaf;

(5) a person appointed by Eastfield College's deaf support services program;

(6) a person appointed by Houston Community College's deaf support services program;

(7) a person appointed by Eastfield College's Gallaudet extension program;

(8) a person with expertise in deaf student services from an institution of higher education, appointed by the coordinating board; and

(9) two persons appointed by the coordinating board.

Added by Acts 1993, 73rd Leg., ch. 431, § 3, eff. June 6, 1993.

Historical and Statutory Notes

1993 Legislation

Sections 4 and 5 of the 1993 Act provide:

"Sec. 4. Notwithstanding Section 51.3061, Education Code, as added by this Act, deaf students who enroll at institutions of higher education are required to take the test prescribed by that section beginning with the fall semester in 1995.

"Sec. 5. Not later than May 1, 1995, the Texas Higher Education Coordinating Board and the State Board of Education shall establish performance standards for the test required under Section 51.3061, Education Code, as added by this Act, and shall establish remedial coursework requirements for students who fail the test."

APPENDIX B

TASP Test Skills List

TASP SKILLS

The TASP skills serve as the basis of the program and the test. The approved TASP skills define what is measured by the test and are the focus of remediation efforts for those who do not pass the test.

The purpose of the test, which was developed to support the goals of the Texas Academic Skills Program, is to assess the reading, mathematics, and writing skills first year students should have if they are to perform effectively in undergraduate certificate or degree programs in Texas public colleges and universities. The 28 skills listed below are eligible to be assessed by the TASP Test.

Reading Skill Descriptions

The Reading section of the TASP Test consists of approximately 40 multiple-choice questions matched to reading selections of about 300 to 750 words each. The selections represent a variety of subject areas and are similar to reading materials (e.g., textbooks, manuals) that students are likely to encounter during their first year of college.

1. **Determine the meaning of words and phrases.**
   This skill includes using the context of a passage to determine the meaning of words with multiple meanings, unfamiliar and uncommon words and phrases, and figurative expressions.

2. **Understand the main idea and supporting details in written material.**
   This skill includes identifying explicit and implicit main ideas and recognizing ideas that support, illustrate, or elaborate the main idea of a passage.

3. **Identify a writer's purpose, point of view, and intended meaning.**
   This skill includes recognizing a writer's expressed or implied purpose for writing; evaluating the appropriateness of written material for various purposes or audiences; recognizing the likely effect on an audience of a writer's choice of words; and using the content, word choice, and phrasing of a passage to determine a writer's opinion or point of view.

4. **Analyze the relationship among ideas in written material.**
   This skill includes identifying the sequence of events or steps, identifying cause-effect relationships, analyzing relationships between ideas in opposition, identifying solutions to problems, and drawing conclusions inductively and deductively from information stated or implied in a passage.

5. **Use critical reasoning skills to evaluate written material.**
   This skill includes evaluating the stated or implied assumptions on which the validity of a writer's argument depends; judging the relevance or importance of facts, examples, or graphic data to a writer's argument; evaluating the logic of a writer's argument; evaluating the validity of analogies; distinguishing between fact and opinion; and assessing the credibility or objectivity of the writer or source of written material.

6. **Apply study skills to reading assignments.**
   This skill includes organizing and summarizing information for study purposes; following written instructions or directions; and interpreting information presented in charts, graphs, or tables.

Mathematics Skill Descriptions

The Mathematics section of the TASP Test consists of approximately 50 multiple-choice questions covering four general areas: fundamental mathematics, algebra, geometry, and problem solving. The test questions focus on a student's ability to perform mathematical operations and solve problems. Appropriate formulas are provided to help examinees perform some of the calculations required by the test questions.

NOTE: The Mathematics skills list was revised as of September 1993. The skills were previously numbered 7–16. They are currently numbered 1–11. The skills in reading and writing were not renumbered so that diagnostic reporting in those areas would remain consistent.

Fundamental Mathematics

1. **Solve word problems involving integers, fractions, decimals, and units of measurement.**
   Includes solving word problems involving integers, fractions, decimals (including percents), ratios and proportions, and units of measurement and conversions (including scientific notation).

2. **Solve problems involving data interpretation and analysis.**
   Includes interpreting information from line graphs, bar graphs, pictographs, and pie charts; interpreting data from tables; recognizing appropriate graphic representations of various data; analyzing and interpreting data using measures of central tendency (mean, median, and mode); and analyzing and interpreting data using the concept of variability.

Algebra

3. **Graph numbers or number relationships.**
   Includes identifying the graph of a given equation or a given inequality; finding the slope and/or intercepts of a given line; finding the equation of a line; and recognizing and interpreting information from the graph of a function (including direct and inverse variation).

4. **Solve one- and two-variable equations.**
   Includes finding the value of the unknown in a given one-variable equation, expressing one variable in terms of a second variable in two-variable equations, and solving systems of two equations in two variables (including graphical solutions).

5. **Solve word problems involving one and two variables.**
   Includes identifying the algebraic equivalent of a stated relationship and solving word problems involving one and two unknowns.

6. **Understand operations with algebraic expressions and functional notation.**
   Includes factoring quadratics and polynomials; performing operations on and simplifying polynomial expressions, rational expressions, and radical expressions; and applying principles of functions and functional notation.

7. **Solve problems involving quadratic equations.**
   Includes graphing quadratic functions and quadratic inequalities; solving quadratic equations using factoring, completing the square, or the quadratic formula; and solving problems involving quadratic models.

Geometry

8. **Solve problems involving geometric figures.**
   Includes solving problems involving two-dimensional geometric figures (e.g., perimeter and area problems) and three-dimensional geometric figures (e.g., volume and surface area problems), and solving problems using the Pythagorean theorem.

9. **Solve problems involving geometric concepts.**
   Includes solving problems using principles of similarity, congruence, parallelism, and perpendicularity.

Problem Solving

10. **Apply reasoning skills.**
    Includes drawing conclusions using inductive and deductive reasoning.

11. **Solve applied problems involving a combination of mathematical skills.**
    Includes applying combinations of mathematical skills to solve problems and to solve a series of related problems.

Writing Skill Descriptions

The Writing section of the TASP Test consists of two subsections: a multiple-choice subsection and a writing sample subsection. The multiple-choice subsection includes approximately 40 questions assessing a student's ability to recognize various elements of effective writing. The writing sample subsection requires students to demonstrate their ability to communicate effectively in writing on a specified topic.

Elements of Composition

17. **Recognize purpose and audience.**
This skill includes recognizing the appropriate purpose, audience, or occasion for a piece of writing and recognizing writing that is appropriate for various purposes, audiences, or occasions.

18. **Recognize unity, focus, and development in writing.**
This skill includes recognizing unnecessary shifts in point of view or distracting details that impair the development of the main idea in a piece of writing and recognizing revisions that improve the unity and focus of a piece of writing.

19. **Recognize effective organization in writing.**
This skill includes recognizing methods of paragraph organization and the appropriate use of transitional words or phrases to convey text structure, and reorganizing sentences to improve cohesion and the effective sequence of ideas.

Sentence Structure, Usage, and Mechanics

20. **Recognize effective sentences.**
This skill includes recognizing ineffective repetition and inefficiency in sentence construction; identifying sentence fragments and run-on sentences; identifying standard subject-verb agreement; identifying standard placement of modifiers, parallel structure, and use of negatives in sentence formation; and recognizing imprecise and inappropriate word choice.

21. **Recognize edited American English usage.**
This skill includes recognizing the standard use of verb forms and pronouns; recognizing the standard formation and use of adverbs, adjectives, comparatives, superlatives, and plural and possessive forms of nouns; and recognizing standard punctuation.

The Writing Sample

The following characteristics are considered in scoring the writing samples.

22. **Appropriateness**—the extent to which the student addresses the topic and uses language and style appropriate to the given audience, purpose, and occasion.

23. **Unity and Focus**—the clarity with which the student states and maintains a main idea or point of view.

24. **Development**—the amount, depth, and specificity of supporting detail the student provides.

25. **Organization**—the clarity of the student's writing and the logical sequence of the student's ideas.

26. **Sentence Structure**—the effectiveness of the student's sentence structure and the extent to which the student's writing is free of errors in sentence structure.

27. **Usage**—the extent to which the student's writing is free of errors in usage and shows care and precision in word choice.

28. **Mechanical Conventions**—the student's ability to spell common words and use the conventions of capitalization and punctuation.

APPENDIX C

TASP Test Results

Appendix C
Percent Passing
TASP Subject Test by Ethnicity

	Academic Year 1989-90	Academic Year 1990-91	Academic Year 1991-92	Academic Year 1992-93	Academic Year 1993-94 **
Reading					
Whites	93.6%	93.0%	92.6%	92.7%	87.8%
Blacks	72.4%	73.0%	73.6%	73.9%	64.4%
Hispanics	80.3%	80.2%	79.6%	79.6%	70.4%
Asians	76.7%	71.9%	69.3%	68.7%	54.2%
Others	77.0%	72.8%	72.1%	72.1%	59.8%
TOTAL	88.5%	87.3%	86.2%	85.8%	78.0%
Mathematics					
Whites	84.4%	83.7%	82.5%	82.8%	72.9%
Blacks	54.7%	58.5%	56.9%	58.3%	41.4%
Hispanics	68.7%	70.7%	68.4%	69.5%	55.7%
Asians	89.8%	89.5%	88.4%	90.8%	83.5%
Others	85.2%	86.0%	85.2%	86.5%	79.1%
TOTAL	78.7%	78.8%	76.8%	77.3%	65.3%
Writing					
Whites	86.2%	88.5%	89.2%	90.2%	85.8%
Blacks	60.6%	66.4%	67.9%	68.9%	62.9%
Hispanics	68.5%	73.4%	74.9%	75.4%	69.7%
Asians	60.3%	59.0%	61.0%	57.5%	48.9%
Others	60.0%	57.8%	61.5%	66.3%	51.6%
TOTAL	79.3%	81.4%	81.7%	81.8%	75.9%

** See "Programmatic Changes" Section, p. 10.

APPENDIX D

File Transfer Protocol (FTP)

FILE TRANSFER PROTOCOL (FTP)

Cohort data for cohort 1989-1995 (five years' data), cohort 1990-1996 (four years' data), cohort 1991-1997 (three year's data), and cohort 1992-1998 (two year's data) for each institution are available in Lotus compatible (.wk1) spreadsheets on the internet anonymous ftp server at:

info.thecb.texas.gov
(192.16.72.17)

Look in the misc/taspdata/taspsr (or)

misc/taspdata/taspjr

directories for the four-year and two-year schools, respectively.

The files are named according to fice code, eg., 003541.WK1 is Angelo State University.

There are two additional files in each directory that contain summary information. File 445566.WK1 contains statewide totals of the data for all two-year institutions, file 778899.WK1 contains statewide totals of the data for all four-year institutions, and 999999.WK1 contains statewide totals for all institutions combined.

Remember to retrieve these spreadsheets as binary files! The extension WK1 must be capitalized, also.

If you are unfamiliar with ftp, contact your local network manager or systems operator (sysop). If you have questions about the data, contact

braselml@thecb.texas.gov

APPENDIX E

Cohort Data: Statewide Summaries

1989-90 GRAND TOTAL

122,925 Total Cohort 82,925 Total Tested

Unduplicated	Remediation Not Required			TASP Required Remediation 38,116			Locally Req'd Remediation 16,496			TASP Untested 28,313	Retention 42,867		Semesters in Remediation	
	Math	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing		Local	Transfer	One	More than One
Cohort Total	42,882	52,406	46,351	15,642	14,956	16,454	24,401	15,563	20,120	40,000	20,136	22,731	53,296	36,435
White	30,460	37,443	34,069	7,047	7,584	8,445	13,211	5,691	8,204	26,662	11,930	15,344	27,045	13,673
Black	2,556	3,360	2,818	2,543	2,273	2,472	3,603	3,069	3,412	4,648	2,061	1,996	8,625	6,565
Hispanic	7,231	9,327	7,606	5,203	4,143	4,352	6,745	5,709	7,221	6,350	4,852	3,968	14,684	13,894
Other	2,635	2,276	1,858	849	956	1,185	842	1,094	1,283	2,340	1,293	1,423	2,942	2,303
													Composition	
GPA >=2.0	33,515	40,572	36,379	8,335	7,749	9,132	14,016	7,545	10,355				18,320	12,536
White	24,448	29,872	27,476	4,299	4,176	4,843	8,420	3,119	4,848				8,942	3,832
Black	1,679	2,209	1,888	1,242	1,004	1,100	1,563	1,271	1,496				2,914	2,267
Hispanic	5,154	6,578	5,452	2,331	1,980	2,326	3,529	2,456	3,236				5,287	5,264
Other	2,234	1,913	1,563	463	589	863	504	699	775				1,177	1,173
													Reading	
Attempting Subject	36,699		43,628	5,125		10,852	9,629		11,048				13,390	7,480
White	25,956		32,011	2,509		5,505	5,536		5,248				5,467	1,918
Black	2,234		2,677	910		1,556	1,253		1,814				2,741	1,496
Hispanic	6,101		7,196	1,372		2,939	2,397		3,394				4,167	3,373
Other	2,408		1,744	334		852	443		592				1,015	693
													Mathematics	
Passing Subject	25,741		36,811	2,464		7,408	4,923		7,266				21,586	16,419
White	18,448		27,195	1,201		3,709	2,970		3,532				12,636	7,923
Black	1,429		2,208	391		1,059	548		1,217				2,970	2,802
Hispanic	4,072		5,944	662		1,993	1,129		2,095				5,230	5,257
Other	1,792		1,464	210		647	276		422				750	437

HIGHEST AWARD EARNED

	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor
White	368	1,989	7,025	250	633	274	313	863	464
Black	22	120	393	43	121	51	75	117	116
Hispanic	81	454	922	149	339	83	169	269	175
Other	14	61	500	17	75	64	25	67	57

39

1990-91 GRAND TOTAL

146,821 Total Cohort 112,729 Total Tested

Unduplicated	Remediation Not Required			TASP Required Remediation 55,049			Locally Req'd Remediation 22,991			TASP Untested 34,689	Retention 67,745		Semesters in Remediation	
	Math	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing		Local	Transfer	One	More than One
Cohort Total	62,029	74,587	67,201	19,605	19,122	20,266	31,095	19,020	25,262	34,092	37,471	30,274	70,133	45,625
White	43,096	52,114	48,345	8,792	9,662	9,948	16,858	6,970	10,453	22,685	22,768	20,506	35,197	17,211
Black	3,744	4,903	4,225	3,103	2,665	2,953	4,033	3,312	3,702	3,577	3,279	2,496	9,890	7,524
Hispanic	10,770	13,659	11,377	6,765	5,576	5,661	9,099	7,399	9,596	5,856	8,759	5,346	21,228	17,863
Other	4,419	3,911	3,254	945	1,219	1,704	1,105	1,339	1,511	1,974	2,665	1,926	3,818	3,027
													Composition	
GPA >=2.0	48,330	57,548	52,420	10,258	9,670	11,109	17,995	9,365	13,054				24,139	15,066
White	34,662	41,658	39,022	5,228	5,158	5,560	10,765	3,839	6,073				11,621	4,476
Black	2,406	3,128	2,738	1,462	1,170	1,321	1,816	1,386	1,625				3,439	2,398
Hispanic	7,479	9,437	7,870	3,054	2,563	2,963	4,713	3,246	4,413				7,611	6,556
Other	3,783	3,325	2,790	514	779	1,265	701	894	943				1,468	1,636
													Reading	
Attempting Subject	52,825		62,592	6,571		13,444	12,296		14,114				17,710	8,854
White	36,522		44,931	3,223		6,436	7,035		6,662				7,111	2,280
Black	3,193		3,941	1,046		1,894	1,355		1,997				3,142	1,618
Hispanic	9,109		10,739	1,910		3,890	3,301		4,716				6,147	4,108
Other	4,001		2,781	392		1,224	605		739				1,310	848
													Mathematics	
Passing Subject	37,322		52,798	3,125		9,185	6,431		9,653				28,284	21,705
White	26,226		38,273	1,578		4,325	3,826		4,631				16,465	10,455
Black	1,991		3,272	455		1,333	637		1,365				3,309	3,508
Hispanic	6,054		8,781	861		2,601	1,586		3,092				7,470	7,199
Other	3,051		2,472	231		926	382		565				1,040	543

HIGHEST AWARD EARNED

	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor
White	532	2,664	4,375	313	655	117	418	872	163
Black	51	180	192	56	125	31	73	100	22
Hispanic	136	546	499	178	395	27	176	336	40
Other	9	103	455	14	88	42	24	65	30

1991-92 GRAND TOTAL

148,608 Total Cohort 119,506 Total Tested

Unduplicated	Remediation Not Required			TASP Required Remediation 59,910			Locally Req'd Remediation 23,654			TASP Untested 35,942	Retention 82,748		Semesters in Remediation	
	Math	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing		Local	Transfer	One	More than One
Cohort Total	66,620	79,699	72,960	20,051	20,859	20,292	32,835	18,948	26,254	29,102	52,664	30,084	72,384	46,047
White	45,351	54,594	51,191	8,542	9,555	9,249	17,154	6,898	10,607	18,268	30,748	20,112	33,841	16,697
Black	4,366	5,714	5,131	3,553	3,248	3,381	4,666	3,623	4,073	4,132	5,314	2,656	11,567	7,917
Hispanic	11,743	14,803	12,730	6,930	6,675	5,794	9,706	6,901	9,855	4,951	12,523	5,399	22,698	17,906
Other	5,160	4,588	3,908	1,026	1,381	1,868	1,309	1,526	1,719	1,751	4,079	1,917	4,278	3,527
													Composition	
GPA >=2.0	52,004	61,506	56,770	10,553	10,037	10,878	18,670	9,684	13,579				25,475	14,462
White	36,582	43,702	41,281	5,155	4,980	5,111	10,720	3,775	6,065				11,122	4,247
Black	2,777	3,606	3,281	1,619	1,347	1,430	2,083	1,526	1,768				3,949	2,399
Hispanic	8,204	10,294	8,867	3,232	2,823	2,936	5,041	3,360	4,674				8,777	5,958
Other	4,441	3,904	3,341	547	887	1,401	826	1,023	1,072				1,627	1,858
													Reading	
Attempting Subject	54,454		65,920	6,021		12,666	12,413		14,724				17,691	9,044
White	36,813		46,000	2,665		5,654	6,837		6,664				6,565	2,300
Black	3,648		4,693	1,156		2,121	1,523		2,197				3,505	1,792
Hispanic	9,526		11,837	1,783		3,682	3,346		5,040				6,142	3,913
Other	4,467		3,390	417		1,209	707		823				1,479	1,039
													Mathematics	
Passing Subject	38,871		56,215	2,831		8,426	6,229		9,931				29,218	22,541
White	26,748		39,534	1,286		3,783	3,472		4,560				16,154	10,150
Black	2,258		3,931	515		1,386	683		1,444				4,113	3,726
Hispanic	6,484		9,889	780		2,342	1,627		3,308				7,779	6,035
Other	3,381		2,861	250		915	447		619				1,172	630

HIGHEST AWARD EARNED

	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor
White	471	2,040	848	236	364	6	339	523	39
Black	40	145	42	43	86	1	55	59	23
Hispanic	133	405	118	141	217	2	147	175	9
Other	11	87	165	16	48	18	21	40	3

1992-93 GRAND TOTAL

142,296 Total Cohort 116,577 Total Tested

Unduplicated	Remediation Not Required			TASP Required Remediation 58,989			Locally Req'd Remediation 22,640			TASP Untested 34,948	Retention 99,632		Semesters in Remediation	
	Math	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing		Local	Transfer	One	More than One
Cohort Total	65,073	77,375	72,076	20,556	21,357	19,076	30,948	17,845	25,425	25,719	75,582	24,050	70,841	40,579
White	44,720	53,608	50,979	9,116	9,882	9,100	15,706	6,052	9,463	16,275	44,829	16,159	32,256	15,116
Black	3,901	5,132	4,740	3,144	2,819	2,644	3,839	2,933	3,500	3,071	6,708	2,104	9,784	6,070
Hispanic	10,875	13,734	12,107	7,063	7,041	5,335	10,066	7,229	10,562	4,906	18,154	4,107	24,045	15,765
Other	5,577	4,901	4,250	1,233	1,615	1,997	1,337	1,631	1,900	1,467	5,891	1,680	4,756	3,628
													Composition	
GPA >=2.0	51,366	60,351	56,416	10,873	10,108	10,398	17,308	9,088	12,733				25,040	12,015
White	36,224	43,018	41,060	5,521	5,094	5,033	9,644	3,277	5,296				10,195	3,449
Black	2,561	3,338	3,098	1,573	1,242	1,220	1,677	1,231	1,493				3,392	1,727
Hispanic	7,803	9,820	8,612	3,157	2,764	2,671	5,178	3,554	4,855				9,525	5,011
Other	4,778	4,175	3,646	622	1,008	1,474	809	1,026	1,089				1,928	1,828
													Reading	
Attempting Subject	49,351		60,966	4,164		10,266	8,696		12,702				17,372	7,975
White	33,575		42,916	1,926		5,018	4,609		5,355				6,425	2,080
Black	2,813		4,026	645		1,343	788		1,615				2,868	1,367
Hispanic	8,304		10,582	1,179		2,860	2,737		4,988				6,468	3,386
Other	4,659		3,442	414		1,045	562		744				1,611	1,142
													Mathematics	
Passing Subject	35,656		51,961	2,049		6,763	4,709		8,549				28,429	20,589
White	24,657		36,794	961		3,235	2,619		3,651				15,636	9,587
Black	1,743		3,344	258		901	341		1,033				3,524	2,976
Hispanic	5,734		8,900	562		1,842	1,400		3,322				8,052	7,368
Other	3,522		2,923	268		785	349		543				1,217	658

HIGHEST AWARD EARNED

	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor	Cert.	Assoc.	Bachelor
White	322	774	302	117	59	0	178	98	13
Black	41	74	12	18	32	0	20	15	4
Hispanic	86	170	52	64	32	1	91	35	5
Other	7	45	38	5	11	2	13	13	1

APPENDIX F

Cohort Outcome Indicators by Ethnicity

Appendix F
Cohort Outcomes Indicators by Ethnicity

	Remediation Not Required				Remediation Required				Remediation Completed			
	White	Black	Hispanic	Other	White	Black	Hispanic	Other	White	Black	Hispanic	Other
1989-95 (5 yrs data)												
Mathematics	60.1%	29.4%	37.7%	60.9%	39.9%	70.6%	62.3%	39.1%	45.1%	26.4%	33.1%	31.9%
Reading	73.8%	38.6%	48.6%	52.6%	26.2%	61.4%	51.4%	47.4%	25.6%	26.3%	26.6%	37.6%
Writing	67.2%	32.4%	39.7%	42.9%	32.8%	67.6%	60.3%	57.1%	36.2%	27.3%	32.8%	41.5%
GPA: Math	80.3%	65.7%	71.3%	84.8%					75.3%	62.2%	68.4%	74.3%
Reading	79.8%	65.7%	70.5%	84.1%					68.5%	65.6%	68.4%	73.5%
Writing	80.6%	67.0%	71.7%	84.1%					71.9%	66.9%	69.3%	74.7%
Pass Math	71.1%	64.0%	66.7%	74.4%					54.6%	50.2%	51.0%	63.5%
Pass English	85.0%	82.5%	82.6%	83.9%					74.5%	78.4%	71.8%	79.2%
1990-96 (4 yrs data)												
Mathematics	62.7%	34.4%	40.4%	68.3%	37.3%	65.6%	59.6%	31.7%	47.5%	31.4%	36.0%	37.9%
Reading	75.8%	45.1%	51.3%	60.5%	24.2%	54.9%	48.7%	39.5%	27.2%	30.1%	28.4%	41.4%
Writing	70.3%	38.8%	42.7%	50.3%	29.7%	61.2%	57.3%	49.7%	38.2%	32.6%	36.5%	45.1%
GPA: Math	80.4%	64.3%	69.4%	85.6%					75.4%	61.6%	67.1%	75.2%
Reading	79.9%	63.8%	69.1%	85.0%					68.6%	66.0%	67.1%	77.3%
Writing	80.7%	64.8%	69.2%	85.7%					70.8%	67.2%	69.1%	76.8%
Pass Math	71.8%	62.4%	66.5%	76.3%					55.7%	50.8%	51.0%	63.3%
Pass English	85.2%	83.0%	81.8%	82.9%					76.1%	88.1%	75.5%	80.1%
1991-97 (3 yrs data)												
Mathematics	63.8%	34.7%	41.4%	68.8%	36.2%	65.3%	58.6%	31.2%	47.1%	29.6%	36.7%	37.5%
Reading	76.8%	45.4%	52.2%	61.2%	23.2%	54.6%	47.8%	38.8%	26.2%	28.2%	29.9%	39.2%
Writing	72.1%	40.8%	44.9%	52.1%	27.9%	59.2%	55.1%	47.9%	37.5%	30.7%	37.2%	41.8%
GPA: Math	80.7%	63.6%	69.9%	86.1%					74.7%	61.7%	66.9%	76.8%
Reading	80.0%	63.1%	69.5%	85.1%					67.7%	66.6%	67.6%	76.6%
Writing	80.6%	63.9%	69.7%	85.5%					70.7%	68.3%	69.8%	76.1%
Pass Math	72.7%	61.9%	68.1%	75.7%					53.2%	51.0%	51.8%	66.0%
Pass English	85.9%	83.8%	83.5%	84.4%					75.5%	76.8%	74.3%	80.2%
1992-98 (2 yrs data)												
Mathematics	64.3%	35.8%	38.8%	68.5%	35.7%	64.2%	61.2%	31.5%	45.2%	24.4%	33.2%	31.6%
Reading	77.1%	47.2%	49.0%	60.2%	22.9%	52.8%	51.0%	39.8%	24.7%	23.6%	27.1%	33.3%	
Writing	73.3%	43.6%	43.2%	52.2%	26.7%	56.4%	56.8%	47.8%	34.7%	26.3%	34.3%	36.0%
GPA: Math	81.0%	65.6%	71.8%	85.7%					73.9%	64.6%	67.8%	76.6%
Reading	80.2%	65.0%	71.5%	85.2%					68.5%	72.0%	68.1%	79.6%
Writing	80.2%	65.4%	71.1%	85.8%					70.1%	69.4%	69.9%	75.1%
Pass Math	72.2%	62.0%	69.1%	69.1%					58.4%	50.3%	55.1%	67.0%
Pass English	85.2%	83.1%	84.1%	84.1%					76.1%	78.3%	75.9%	78.8%

GPA = Grade Point Average.

APPENDIX G

Glossary of Terms

Glossary

Cohort:	Subset of students from the general population defined as first-time entering students in an academic year in public higher education who remain in school for at least two semesters through the following fall semester (not necessarily contiguously). Overall cohort "N" (number) is computed by adding the unduplicated counts plus "untested."
Cohort Analysis:	Study of a subset of students after a given amount of time on a given set of outcomes. Not a trend analysis unless the cohorts are studied at the same point in time (after the same amount of time has elapsed). As presented in this study, the cohort analysis may be used for for limited two to three year trends.
Cohort Data/ Study:	Numbers based on the performance of cohort students from the time of their entry into the cohort through the next six years. Cohorts identified to date are Cohorts 1989-95, 1990-96, 1991-97, and 1992-98, representing the beginning and final years of the study period for the cohort.
Ethnicity:	Self-reported student data describing students' ethnic origin. "Others" includes Asian student, Native American students, and foreign students.
Exemption:	Legislation passed by the 73rd Texas Legislature allowed for students to be exempted from the TASP (but not local placement testing) based on high performance on the Scholastic Assessment Test (SAT), American College Test (ACT), or the Texas Assessment of Academic Skills (TAAS) test. Exemption cut-score levels are set by the Texas Higher Education Coordinating Board.

Grade Point Average (GPA):	Number of student with a GPA equal to or better than a 2.0 (C) average after completion of the first college-level mathematics or English class.
Highest Award Earned:	Number of certificates, associate or bachelor degrees earned to date by cohort students. This should NOT be confused with the "graduation rate" published by the Texas Higher Education Coordinating Board.
Locally Required Remediation:	Cohort students who have passed TASP placement testing but have failed a local placement test in the subject shown. Unduplicated count are students liable for remediation locally in one or more than one subject.
N:	Number of students.
Passing First College-Level Class:	Computed for English and mathematics (there is presently no measure for first college-level reading course). Passes are divided by attempts for the given academic subject. A passing grade is "D" or higher.
Placement Testing:	Tests used to diagnose students' preparedness for college coursework. The TASP Test sets the statewide minimum; local placement requirements may be higher.
Remediation Completed:	Data for those students who complete remediation are summarized in this report for purposes of comparison with students who do not require remediation. Detailed numbers are available from the TASP Office staff, who compile this separate analysis of cohorts.
Remediation Not Required	Cohort students who passed the TASP Test by subject shown. Unduplicated count are students who passed more than one section.

Remediation Required:	All remediation required through placement testing (TASP and local).
Retention:	Students still in school. Students identified as retained either at the original (local) institution or by transfer to another institution are summed. That sum is divided by either the cohort number N (overall retention) or by the ethnicity number N (retention by ethnic group).
Semesters in Remediation:	Number of semesters of remediation provided.
TASP Liable:	Unless waived or exempted, since 1989 all students attending a public postsecondary institution for more than nine semester credit hours have been required to take the TASP Test. A "non-attempt" on a section of the TASP Test is considered the same as a failure in the tested subject.
TASP Required Remediation:	Cohort students who either have failed both local and TASP placement testing in subject shown or have passed local placement testing and have not yet attempted the TASP Test. Unduplicated count are students liable for remediation in one or more than one subject.
TASP Untested:	Students waived from the TASP requirement by exemption or enrollment in special certificate programs. The untested students are subtracted from the overall cohort N (number) to arrive at the Tested N (number), or the number of students who had to take the TASP examination.
TASP-Waived Certificate:	Students enrolled in certain certificate programs with less than nine general education hours are waived from the TASP.
Tested Population:	Cohort students required to take the TASP Test.

Trend Analysis:	Comparisons of student performance for an academic year with student performance from subsequent academic years on a common set of measures to show improving or declining performance. A cohort analysis is NOT a trend analysis unless cohorts are compared at the same point of time duration.

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